

CLAIMS

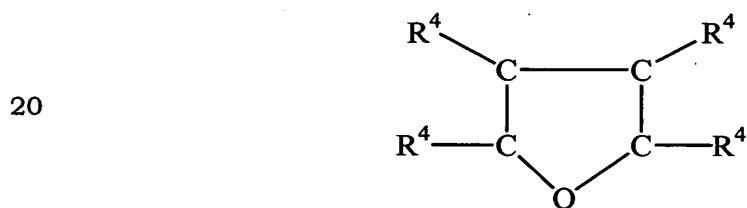
What is claimed is:

- 5                    1. A film prepared from a urea/urethane polymer comprising  
 (a) repeating units derived from a hydroxy-terminated copolymer prepared  
 from tetrahydrofuran and one or both of an alkylene oxide and a cyclic  
 acetal, and (b) repeating units derived from a polyisocyanate;

                      wherein the urea/urethane polymer contains less than about  
 10   2 mole percent of urea units described by the formula  $-R - N(R^2) - C(O) -$   
 $N(R^2) - R^1 -$ ;

                      wherein R is an aromatic hydrocarbon radical,  $R^1$  is an  
 aliphatic hydrocarbon radical, and  $R^2$  is H or an amide group that is  
 described by the formula  $-C(O) - N(R^2) - R -$ ; and

15                    wherein the tetrahydrofuran is described by the formula



25                    in which any one of the  $R^4$ 's may be a  $C_1$  to  $C_4$  alkyl radical with the  
 remaining  $R^4$ 's being hydrogen.

2. A film according to Claim 1 wherein the polyisocyanate is  
 selected from the group consisting of toluene diisocyanate, methylene  
 diphenyldiisocyanate and polymethylene polyphenylisocyanate.

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3. A film according to Claim 1 wherein the alkylene oxide is  
 selected from the group consisting of 1,2-propylene oxide and ethylene  
 oxide.

- 35                    4. A film according to Claim 1 wherein the alkylene oxide is  
 ethylene oxide.

5. A film according to Claim 1 wherein each R<sup>4</sup> in the tetrahydrofuran is hydrogen.

6. A film according to Claim 1 wherein each R<sup>4</sup> in the tetrahydrofuran is hydrogen, the hydroxy-terminated copolymer is prepared from an alkylene oxide, and the alkylene oxide is ethylene oxide.

7. A film according to Claim 1 wherein the urea/urethane polymer contains less than about 1 mole percent of the described urea units.

8. A film according to Claim 1 wherein the urethane polymer further comprises repeating units derived from an ionic compound or a potentially ionic compound.

9. A film according to Claim 1 that is prepared from an aqueous dispersion of the urea/urethane polymer of Claim 1 and a surfactant.

10. A film prepared from an ionomeric urea/urethane polymer comprising (a) repeating units derived from an aliphatic polyether polyol having a molecular weight of about 700 to about 1500, and (b) repeating units derived from a polyisocyanate,

wherein the urea/urethane polymer contains less than about 2 mole percent of urea units described by the formula  $-R - N(R^2) - C(O) - N(R^2) - R^1 -$ ;

wherein R is an aromatic C<sub>6</sub> - C<sub>20</sub> hydrocarbon radical, R<sup>1</sup> is an aliphatic C<sub>1</sub> - C<sub>20</sub> hydrocarbon radical, and R<sup>2</sup> is H or an amide group that is described by the formula  $-C(O) - N(R^2) - R -$ .

11. A film according to Claim 10 which comprises repeating units derived from an ionic compound or a potentially ionic compound.

12. A film according to Claim 11 wherein the ionic compound or potentially ionic compound comprises a hydroxy-carboxylic acid of the general formula  $(HO)_xR^7(COOH)_y$ , wherein R<sup>7</sup> represents a straight or branched hydrocarbon radical containing 1 to 12 carbon atoms, and x and y each independently represents values from 1 to 3.

13. A film according to Claim 11 wherein the ionic compound or potentially ionic compound comprises 2,2' dimethanolpropionic acid.

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14. A film according to Claim 10 wherein the polyisocyanate is selected from the group consisting of toluene diisocyanate, methylene diphenyldiisocyanate and polymethylene polyphenylisocyanate.

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15. A film according to Claim 10 wherein the polyether polyol is described by the formula  $\text{HO} - [(\text{CR}^5\text{H})_m - \text{O}]_n - \text{H}$ , wherein  $\text{R}^5$  is hydrogen, a halogen or a  $\text{C}_1$  to  $\text{C}_4$  alkyl radical;  $m$  is 3 or 4; and  $n$  is in the range of about 8 to about 20.

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16. A film according to Claim 15 wherein  $\text{R}^5$  is hydrogen.

17. A film according to Claim 10 wherein the polyether polyol has a molecular weight in the range of about 900 to about 1150.

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18. A film according to Claim 10 wherein the urea/urethane polymer contains less than about 1 mole percent of the described urea units.

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19. A film according to Claim 10 that is prepared from an aqueous dispersion of the urea/urethane polymer of Claim 10 and a surfactant.

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20. A film prepared from an ionomeric urea/urethane polymer comprising (a) repeating units derived from an aliphatic polyester polyol, and (b) repeating units derived from a polyisocyanate, wherein the urea/urethane polymer contains less than about 2 mole percent of urea units described by the formula  $-\text{R} - \text{N}(\text{R}^2) - \text{C}(\text{O}) - \text{N}(\text{R}^2) - \text{R}^1$ ;

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wherein  $\text{R}$  is a  $\text{C}_6 - \text{C}_{20}$  aromatic hydrocarbon radical,  $\text{R}^1$  is a  $\text{C}_1 - \text{C}_{20}$  aliphatic hydrocarbon radical, and  $\text{R}^2$  is  $\text{H}$  or an amide group that is described by the formula  $\text{C}(\text{O}) - \text{N}(\text{R}^2) - \text{R}$ .

21. A film according to Claim 20 which comprises repeating units derived from an ionic compound or a potentially ionic compound.

22. A film according to Claim 21 wherein the ionic  
5 compound or potentially ionic compound comprises a hydroxy-carboxylic acid of the general formula  $(\text{HO})_x\text{R}^7(\text{COOH})_y$ , wherein  $\text{R}^7$  represents a straight or branched hydrocarbon radical containing 1 to 12 carbon atoms, and x and y each independently represents values from 1 to 3.

10 23. A film according to Claim 21 wherein the ionic compound or potentially ionic compound comprises 2,2' dimethanolpropionic acid.

24. A film according to Claim 20 wherein the polyisocyanate  
15 is selected from the group consisting of toluene diisocyanate, methylene diphenyldiisocyanate and polymethylene polyphenylisocyanate.

25. A film according to Claim 20 wherein the polyester  
20 polyol is a dihydroxy-terminated polymer selected from the group consisting of an ethylene adipate, a butylene adipate, an ethylene/butylene adipate, and mixtures thereof.

26. A film according to Claim 20 wherein the urea/urethane  
25 polymer contains less than about 1 mole percent of the described urea units.

27. A film according to Claim 20 that is prepared from an  
aqueous dispersion of the urea/urethane polymer of Claim 20 and a  
30 surfactant.

28. A film according to Claims 1, 10 and 20 that is  
fabricated in the form of a glove.

29. A glove according to Claim 28 wherein the glove is not  
35 perforated or broken at the point of contact between the thumb and forefinger after the thumb and forefinger have dipped in isopropyl alcohol and rubbed together for a time of about 30 to about 60 seconds.